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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JOHN E. HUDSON

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Appeal 2006-2498  
Application 09/688,557  
Technology Center 2600

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Decided: January 15, 2008

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Before LANCE LEONARD BARRY, JEAN R. HOMERE, and JOHN A. JEFFERY, *Administrative Patent Judges*.

BARRY, *Administrative Patent Judge*.

DECISION ON APPEAL

I. STATEMENT OF THE CASE

A Patent Examiner rejected claims 1-48. The Appellant appeals therefrom under 35 U.S.C. § 134(a). We have jurisdiction under 35 U.S.C. § 6(b).

#### A. INVENTION

According to the Appellant, the bandwidth available for a communications link between a communication terminal and a single base station has limited the capacity of radio links of in-building cellular communication systems. The Appellant's invention attempts to mitigate this limitation by permitting the terminal to establish plural communications links with plural base stations. The communications links distribute non-identical content data in parallel. (Spec. 32.)

#### B. ILLUSTRATIVE CLAIMS

Claims 1 and 15, which further illustrate the invention, follow.

1. A wireless communications system comprising a terminal capable of communicating with a plurality of base stations using a respective plurality of simultaneous communications links, a number of the plurality of simultaneous communications links bearing content data, wherein the content data borne by each of the number of the plurality of simultaneous communications links are non-identical.
  
15. A communications terminal comprising a plurality of modems coupled to an antenna arrangement, the antenna arrangement supporting a plurality of simultaneous communications links, a number of the plurality of simultaneous communications links bearing content data, wherein the content data borne by each of the number of the

plurality of simultaneous communications links are non-identical.<sup>1</sup>

#### C. REJECTIONS

Claims 1, 5-14, 17, 19-25, 27-33, 35-41, and 43-48 stand rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 5,793,744 ("Kanerva ") and U.S. Patent No. 6,078,817 ("Rahman"). Claims 2 and 3 stand rejected under § 103(a) as obvious over Kanerva; Rahman; and U.S. Patent Application Pub. No 200210036999 ("Bi"). Claims 4, 18, 26, 34, and 42 stand rejected under § 103(a) as obvious over Kanerva; Rahman; and U.S. Patent No. 6,009,124 ("Smith"). Claim 15 stands rejected under § 103(a) as obvious over Kanerva and U.S. Patent No. 6,449,290 ("Willars"). Claim 16 stands rejected under § 103(a) as obvious over Kanerva; Willars; and Smith.

#### II. CLAIMS 15 AND 16

"Rather than reiterate the positions of parties *in toto*, we focus on the issue therebetween." *Ex parte Filatov*, No. 2006-1160, 2007 WL 1317144, at \*2 (BPAI 2007). The Examiner makes the following findings.

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<sup>1</sup> "Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation." 37 C.F.R. § 1.75(i)(2007). Here, although claims 1 and 15 set forth plural elements, these elements are not separated by line indentation. (Br. 10-11.) Being "basically a board of review," *Ex parte Gambogi*, 62 USPQ2d 1209, 1211 (BPAI 2001), however, we leave the *pro forma* issue to the Examiner.

Kanerva et al teaches a communications terminal coupled to an antenna arrangement (Figure 6), the antenna arrangement supporting a plurality of simultaneous communications links (Column 3, Lines 5-8, 61-62; Column 5 Lines 18-24, Column 6, Lines 10-12 and Figure 6), a number of the plurality of simultaneous communications links bearing content data (Column 3, Lines 46-47), wherein the content data born by each

of the number of the plurality of simultaneous communications links are non-identical (Column 3, Lines 5-8) . . . .

(Ans. 7-8.) Further finding that "Willars et al teaches a plurality of modems (Figure 1; base station)," (*id.* 8), he concludes that "it would have been obvious to a person of ordinary skill in the art to combine the art of Kanerva et al with the teaching of Willars et al of using a plurality of modems to facilitate communication (Column 2, Lines 6-7)." (*Id.*) The Appellant argues, "Willars teaches the provision of a plurality of modems in a base station, not a terminal as in the present invention." (Amended Supp. App. Br.<sup>2</sup> 8.) Therefore, the issue is whether the combined teachings of the references would have suggested a communications terminal that supports parallel communications links bearing non-identical data, wherein the terminal includes plural modems.

"Both anticipation under § 102 and obviousness under § 103 are two-step inquiries. The first step in both analyses is a proper construction of the claims . . . . The second step in the analyses requires a comparison of the

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<sup>2</sup> We rely on and refer to the Amended Supplemental Brief on Appeal, in lieu of the original Supplemental Brief on Appeal and the original Brief on Appeal, because the original Supplemental Brief on Appeal was defective, and the Brief on Appeal was filed before the Examiner reopened prosecution. We will not consider the latter two Briefs in deciding this appeal.

properly construed claim to the prior art." *Medichem, S.A. v. Rolabo, S.L.*, 353 F.3d 928, 933, (Fed.Cir. 2003) (internal citations omitted).

#### A. CLAIM CONSTRUCTION

"[T]he PTO gives claims their 'broadest reasonable interpretation.'" *In re Bigio*, 381 F.3d 1320, 1324 (Fed. Cir. 2004) (quoting *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000)). "Moreover, limitations are not to be read into the claims from the specification." *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993) (citing *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989)).

1        Here, claim 15 recites in pertinent part the following limitations: "[a] communications terminal comprising a plurality of modems coupled to an antenna arrangement, the antenna arrangement supporting a plurality of simultaneous communications links . . . wherein the content data born by each of the number of the plurality of simultaneous communications links are non-identical." Giving the claim the broadest, reasonable construction, the limitations require a communications terminal that supports parallel communications links bearing non-identical data, wherein the terminal includes plural modems.

#### B1. OBVIOUSNESS ANALYSIS

"The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l v. Teleflex Inc.*, 127 S.Ct. 1727, 1739 (2007).

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

*Id.* at 1740. "[I]t can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *Id.* at 1741. A reason to combine teachings from the prior art "may be found in explicit or implicit teachings within the references themselves, from the ordinary knowledge of those skilled in the art, or from the nature of the problem to be solved."

*WMS Gaming Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1357 (Fed. Cir. 1999) (citing *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998)). "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (citing *In re Kotzab*, 217 F.3d 1365, 1370 (Fed. Cir 2000)).

Here, Kanerva "allocate[s] parallel traffic channels to a single user so as to provide a high-speed data connection." (Col. 10, ll. 41-43.) "High-speed data service[s] thus obtained are referred to as HSCSD (High Speed Circuit Switched Data) services." (Col. 3, ll. 15-16.) More specifically, the aforementioned "parallel traffic channels (subchannels) are used on the radio path for one high-speed data connection. [A] high-speed data signal is distributed to the parallel subchannels at the transmitting end for the transmission over the radio path, and then combined at the receiving end." (*Id.* ll. 5-8.) It is uncontested that the reference's parallel traffic channels/subchannels bear non-identical data. "In this manner, it is possible to provide data transfer services which, depending on the number of allocated traffic channels, have a transfer rate up to 8 times the conventional data rate." (*Id.* ll. 8-11.)

Kanerva's Figure 6 shows that such parallel traffic channels/subchannels (Ch1-Chn) are located between a mobile station (MS) and a base station (BTS). We find that the claimed "communications terminal" reads on the reference's base station. Kanerva also explains that its "invention is universally applicable on various kinds of multiple access methods and traffic channels" (col. 10, ll. 34-36) such as code division multiple access (CDMA) systems. (Col. 10, l. 36 – col. 11, l. 61.)

Willars also "relates to . . . a CDMA-system . . ." (Col. 1, ll. 5-8.) More specifically, the secondary reference explains that "[i]n a CDMA

cellular communications system, each cell has several modulator-demodulator units or spread spectrum modems." (Col. 2, ll. 1-3.) The Appellant admits, "Willars teaches the provision of a plurality of modems in a base station . . . ." (Amended Supp. App. Br. 8.) Willars also explains that "[e]ach [such] modem at the base station BS can be assigned to a mobile station as needed to facilitate communications with the assigned mobile station MS." (Col. 2, ll. 5-8.)

Because Kanerva teaches a base station that supports parallel communications links bearing non-identical data and is applicable to a CDMA system, and Willars teaches that base stations in CDMA systems include plural modems to facilitate communications with assigned mobile stations, we are persuaded that the combined teachings of the references would have suggested a communications terminal that supports parallel communications links bearing non-identical data, wherein the terminal includes plural modems. Therefore, we affirm the rejections of claim 15.

Rather than arguing the rejection of claim 16, the Appellant relies on the aforementioned argument. (Amended Supp. App. Br. 9.) Unpersuaded by this argument, we also affirm the rejections of the latter claim.

### III. CLAIMS 1-14 AND 17-48

"Rather than reiterate the positions of parties *in toto*, we focus on an issue therebetween." *Ex parte Kuruoglu*, No. 2007-0666, 2007 WL

2745820, at \*2 (BPAI 2007). The Examiner admits, "Kanerva . . . does not teach communicating with a plurality of base stations." (Ans. 3.) Finding that "Rahman teaches communicating with a plurality of base stations (Column 4, Lines 61-64 and Figure 3)," (*id.*), however, he concludes that "it would have been obvious to a person of ordinary skill in the art to combine the art of Kanerva et al with the teaching of Rahman of communicating with a plurality of base stations to provide increased capacity (Column 3, Lines 14-15)." (*Id.* 4.) The Appellant argues that "a person of ordinary skill who did combine the teachings of Kanerva and Rahman would arrive at a system which does not correspond to that described in claim 1 of the present application." (Amended Supp. App. Br. 8.) Therefore, the issue is whether combined teachings of the references would have suggested parallel communication links between a terminal and plural base stations, wherein the links bear non-identical data.

#### A. CLAIM CONSTRUCTION

"The Patent and Trademark Office (PTO) must consider all claim limitations when determining patentability of an invention over the prior art." *In re Lowry*, 32 F.3d 1579, 1582 (Fed. Cir. 1994) (citing *In re Gulack*, 703 F.2d 1381, 1385 (Fed. Cir. 1983)). Here, independent claim 1 recites in pertinent part the following limitations:

a terminal capable of communicating with a plurality of base stations using a respective plurality of simultaneous communications links, a number of the plurality of simultaneous communications links bearing content data, wherein the content data borne by each of the number of the

plurality of simultaneous communications links are non-identical.

Independent claims 17, 25, 33, and 41 include similar limitations.

Considering all the limitations, the independent claims require parallel communication links between a terminal and plural base stations, wherein the links bear non-identical data.

#### B1. OBVIOUSNESS ANALYSIS

"In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness." *In re Rijckaert*, 9 F.3d 1531, 1532 (Fed. Cir. 1993) (citing *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992)). "*A prima facie* case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." *In re Bell*, 991 F.2d 781, 783 (Fed. Cir. 1993) (quoting *In re Rinehart*, 531 F.2d 1048, 1051 (CCPA 1976)).

Here, as aforementioned, the Examiner admits, "Kanerva . . . does not teach communicating with a plurality of base stations." (Ans. 3.) To the contrary, Figure 6 of the reference shows that the parallel traffic channels/subchannels (Ch1-Chn) are located between the single mobile station (MS) and the single base station (BTS). In contrast to claim 15, because claims 1, 17, 25, 33, and 41 recite **both** "base stations" and "a terminal," we cannot read the latter limitation on Kanerva 's base station for these claims. Instead, we read one of the claims' "base stations" on

Kanerva's base station and the claims' "terminal" on the reference's single mobile station.

For its part, Rahman explains that "[i]n addition to serving an increased number of users, the CDMA system uses a technique known as 'macro-diversity' to improve the quality of the radio reception in the radio telecommunications network." (Col. 1, ll. 40-43.) "The macro-diversity mode involves the use of two or more simultaneous links from two or more cells or base stations to a single mobile station in order to improve the quality or performance of the reception of the radio signal." (*Id.* ll. 43-47.) We find that the desirability of improving quality or performance would have prompted a person of ordinary skill in the relevant field to combine teachings of the references, resulting in parallel communication links between a terminal and plural base stations.

We are unpersuaded, however, that the links of such a combination would have borne non-identical data. To the contrary, we agree with the Appellant that "the macro diversity mode described in Rahman involves the same content data being sent over each of the links in order that the sum of the received signals can be combined to improve the reliability of the demodulation process (Rahman, column 1 lines 40-55)." (Amended Supp. App. Br. 8.) Furthermore, the secondary reference explains that it "utilizes [the] macro-diversity technique to provide duplicate or triplicate channel elements to each operating mobile station." (Col. 3, ll. 19-21.)

Because Rahman's macro-diversity mode employs duplicate or triplicate channels, we find that the combined teachings of that reference and Kanerva would have suggested to those of ordinary skill in the art parallel communication links between a terminal and plural base stations, wherein the links bear identical data. Therefore, we reverse the rejection of claims 1, 17, 25, 33, and 41 and of claims 5-14, 19-24, 27-32, 35-40, and 43-48, which depend therefrom.

The Examiner does not allege, let alone show, that the addition of Bi or Smith cures the aforementioned deficiency of Kanerva and Rahman. Absent a teaching or suggestion of parallel communication links between a terminal and plural base stations, wherein the links bear non-identical data, we are unpersuaded of a *prima facie* case of obviousness. Therefore, we also reverse the rejection of claims 2-4, 18, 26, 34, and 42.

#### IV. ORDER

In summary, the rejections of claims 1-14 and 17-18 under § 103(a) are reversed. The rejections of claims 15 and 16 under § 103(a) are affirmed.

"Any arguments or authorities not included in the brief or a reply brief filed pursuant to [37 C.F.R.] § 41.41 will be refused consideration by the Board, unless good cause is shown." 37 C.F.R. § 41.37(c)(1)(vii). Accordingly, our affirmance is based only on the arguments made in the

brief(s). Any arguments or authorities omitted therefrom are neither before us nor at issue but are considered waived. *Cf. In re Watts*, 354 F.3d 1362, 1367 (Fed. Cir. 2004) ("[I]t is important that the applicant challenging a decision not be permitted to raise arguments on appeal that were not presented to the Board.")

No time for taking any action connected with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

rwk

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